

REMARKS

In the Office Action mailed September 10, 2004, the examiner rejected applicants' claims 1-20 for alleged obviousness under 35 USC 103, with primary reliance upon an asserted combination of Woodward, U.S. Patent 2,859,784 and Galland, U.S. Patent 4,391,172.

In response, applicants respectfully resubmit claims 1-20 without revision, for reconsideration and allowance, particularly for the reasons noted in the following remarks.

Brief Discussion of the Invention as Claimed

The present invention is directed to a plug prevention device used with a rotary slicing machine of the type having a rotary impeller defining a "throat wall" that in turn defines an "upwardly open inlet throat" (emphasis added). Accordingly, as claimed, the "throat wall" and the associated "upwardly open inlet throat" are part of the rotary impeller, and thus rotate during operation of the slicing machine. The plug prevention device comprises a member such as an elongated rod "extending at least partially into" (claims 1 and 10, emphasis added), or "disposed generally within" (claim 12, emphasis added) the rotating inlet throat and disposed "substantially off-axis" (emphasis added) relative to an axis of impeller rotation.

In operation and use of the slicing machine, products such as potatoes are supplied to the rotary impeller by means of a suitable conveyor or chute or the like. The rotary impeller is driven at a suitable speed for carrying the products by centrifugal force into engagement with one or more slicing knives positioned at the impeller periphery or perimeter. However, as noted in the Background portion of applicants' Specification, the products can lodge or hang up within the rotating wall defining the upwardly open impeller throat. That is, the products falling downwardly from the chute or conveyor can sometimes contact the spinning wall, and lodge at that position by centrifugal action, without properly falling downwardly through the open throat into the impeller interior where centrifugal action would carry the products into proper cutting engagement with the slicing knives. The result is that the impeller throat becomes plugged

or obstructed with the product inflow, and the desired product through-flow and product cutting is interrupted.

Applicants' plug prevention device as disclosed and claimed solves this problem by dislodging any product which hangs up or lodges by centrifugal action on or against the rotating wall defining the impeller inlet throat. As claimed, applicants' "plug prevention device" extends "at least partially" into (claims 1 and 10) or is otherwise "disposed generally within" (claim 12) the upwardly open impeller throat at a location that is "substantially off-axis" relative to the vertical axis of impeller rotation. Any product tending to hang up within the inlet throat by centrifugal action is thus engaged and dislodged by applicants' "plug prevention device", to insure that each product properly falls downwardly through the impeller throat and into the impeller interior for cutting.

Notwithstanding the examiner's remarks in the Office Action, and the references cited by the examiner, applicants respectfully submit that the cited art fails to disclose or suggest any "plug prevention device" as claimed, namely, an "off-axis" structure that extends "at least partially" into or "disposed generally within" an upwardly open, rotating impeller throat. As such, applicants respectfully contend that the invention as claimed distinguishes clearly and patentably from the cited references. Reconsideration and allowance are therefore respectfully requested.

Discussion of the Cited References

In the Office Action, the examiner has relied upon an asserted combination of Woodward, U.S. Patent 2,859,784 and Galland, U.S. Patent 4,391,172 as primary references to support the rejection of claims 1-20 for obviousness under 35 USC 103. More particularly, claims 1, 7-12 and 18-20 have been rejected in view of Woodward and Galland alone, whereas the remaining claims 2-6 and 13-17 have been rejected in view of these primary references considered further in view of Burch, U.S. Patent 5,385,074 or Bogie, U.S. Patent 2,631,785.

The Woodward reference discloses a rotary slicing machine for receiving and cutting potatoes or the like. Woodward uses an open tapered chute 11 to deliver potatoes into the interior of a housing having a rotary impeller therein for

sweeping the potatoes into cutting engagement with peripherally mounted knives. The examiner concedes, however, that Woodward orients his impeller for rotation on a vertical axis relative to a shaft 19, whereby Woodward's structure requires a lateral or side-open passage (*i.e.*, not an "upwardly open" inlet throat" as recited in applicants' claims) in the housing to accommodate potato inflow. See Office Action, p. 2, para. 2.

Nevertheless, the examiner contends that it would be obvious (in view of the Galland reference) to modify the Woodward reference by re-orienting the machine to provide an upwardly open product inflow passage. In such modified configuration, the examiner contends that Woodward would then have applicants' claimed "upwardly open inlet throat", in combination with a "plug prevention means" that extends "at least partially into" or "disposed generally within" that inlet throat at an "off-axis" location. Applicants do not agree. Applicants' respectfully contend that the examiner has misunderstood or misconstrued the claimed structure.

As noted previously herein, applicants' claims all require the "upwardly open inlet throat" to be defined by a "throat wall" recited as a part of the "rotary impeller". Thus, applicants' claims require the "throat wall" and the wall-defined "upwardly open inlet throat" to rotate. It is this rotating throat wall structure, in the claimed upwardly open orientation, that can cause incoming products such as potatoes to hang up or lodge by centrifugal action, instead of falling downwardly through the inlet throat and into the impeller interior for proper cutting. By contrast, in a cutting or slicing machine having a product inlet opening or throat defined by a non-rotating (*i.e.*, stationary) housing structure, incoming products will not and cannot hang up or lodge by centrifugal action to obstruct or plug the inlet opening or throat.

In the Woodward reference, the product inlet opening or throat is defined by a non-rotating (*i.e.*, stationary) housing structure, namely, the non-rotating downstream end of the tapered chute 11 and/or the surrounding housing structure (see Fig. 2). The impeller including the back plate 42 and the perimeter paddles 43 (see Fig. 2) does not have any "throat wall" defining an "open inlet throat" that is part of and rotates with the impeller. Accordingly, even if a person skilled in the art re-oriented Woodward's machine in the manner posed by the

examiner, Woodward does not have a rotating wall-defined “inlet throat” against which incoming products can lodge or hang up by centrifugal action.

In addition, Woodward’s chute 11 clearly does not extend “at least partially into” (applicants’ claims 1 and 10) nor is it “disposed generally within” (applicants’ claim 12) any rotating structure of any kind. Rather, the downstream terminal end of Woodward’s chute 11 clearly stops short of, and in spaced relation to, the adjacent rotating structure defined by the left-hand ends (see Fig. 2) of his impeller paddles 43. The examiner’s apparent contentions to the contrary, as stated in the Office Action, are simply incorrect.

Moreover, applicants challenge the examiner’s assertion that Woodward “teaches” a plug prevention member “disposed substantially off-axis relative to an axis of rotation impeller 43” (Office Action, p. 2, para. 2). At the outset, applicants submit (as discussed above) that Woodward’s chute 11 is not and cannot function as a “plug prevention member”. While Woodward’s Fig. 1 appears to show the chute 11 in an “off-axis” position, applicants note that Fig. 2 in Woodward clearly shows the chute located precisely on-axis. The only thing obvious from Woodward is that his drawings are inconsistent and contradictory. Clearly, Woodward does not “teach” any preference whatsoever for an “off-axis” vs. an “on-axis” position.

Despite the foregoing deficiencies of the Woodward reference, the examiner has nevertheless asserted that it is obvious to modify Woodward in view of the Galland reference, for purposes of supporting the rejection of applicants’ claims.

The Galland reference discloses a rotary cutting machine of the type having a rotary impeller mounted within a non-rotating or stationary housing which defines an upwardly open inlet for receiving inflow of products such as potato slices. This upwardly open inlet is defined by Galland’s stationary housing components 40, 60 and 64. Galland’s internally mounted rotary impeller does not define any rotating “throat wall” or associated “upwardly open inlet throat” for product inflow.

Accordingly, both Woodward and Galland use non-rotating, stationary housing structures to define a product inflow passage. As previously noted herein, incoming products will not and cannot become trapped or lodged by

centrifugal action against a non-rotating housing structure. Since these references both fail to recognize or appreciate the problem solved by applicants' claimed invention, it is fundamental that these references simply cannot, in any perceivable combination, render obvious applicants' claimed solution to that problem.

Clearly, the primary combination of the Woodward and Galland references fails completely to disclose or suggest applicants' claimed "plug prevention member" or "rod" that extends partly into the rotating "upwardly open inlet throat" at an "off-axis" location to strike and dislodge products trapped by centrifugal action on the spinning "throat wall."

The secondary references cited by the examiner in the Office Action do not provide any teaching or suggestion capable of overcoming or resolving the fundamental shortcomings of the Woodward and Galland references, as noted above. In particular, Burch, U.S. Patent shows a plurality of rotatable rods used to auger or push products into cutting engagement with a helical knife assembly; there is no rotating impeller defining a rotating "throat wall" or an associated rotating "inlet throat." Bogie, U.S. Patent 2,631,785 discloses jaw pairs for feeding particulate in a rock crusher device, and is not believed to be pertinent in any way to applicants' claimed invention. If and to the extent that Bogie attempted to process food items such as potatoes, it is not understood how the jaw pairs are associated with any counterpart impeller structure.

Jouin, U.S. Patent 2,934,337 (cited incorrectly in the Office Action, at p. 3) merely shows another example of a rotary cutting machine having a laterally open inlet for receiving product inflow.

The remaining references of record (cited but not applied against any claims) have been reviewed, but are not believed to provide any pertinent teaching in this case. For the most part, and contrary to the examiner's remarks in the Office Action, these references do not disclose or suggest any "plug prevention" device or member in combination with a rotary machine.

Applicants therefore submit that claims 1-20 of this application, without revision as submitted herewith, are allowable over the cited references.

Conclusion

In conclusion, in view of the foregoing remarks, applicants respectfully resubmit claims 1-20 for reconsideration and allowance. A Notice of Allowance is believed to be in order, and is therefore respectfully requested.

Respectfully submitted,

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